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6a) 2 half circles

$A_{TOT} = A_{big} - A_{small}$

$= \frac{\pi r^2}{2} - \frac{\pi R^2}{2}$

$= \frac{\pi(4)^2}{2} - \frac{\pi(2)^2}{2}$

$= \frac{16\pi}{2} - \frac{4\pi}{2}$

$= 8\pi - 2\pi$

$= 6\pi$

b) 1 rectangle
1 isosceles triangle

$A_{TOT} = A_{rec} + A_{tri}$

$= LW + \frac{bh}{2}$

need to find h.

3ft = 36 inch

$36 - 15 = h$

$21 = h$

$A_{TOT} = LW + \frac{bh}{2}$

$= (20)(15) + \frac{(20)(21)}{2}$

$= 300 + \frac{420}{2}$

$= 300 + 210$

$= 510 in^2$

c) Many choices here!
I see... 1 trapezoid
1 half circle

$A_{TOT} = A_{TRAP} + A_{cir}$

$= \frac{(a+b)h}{2} + \frac{\pi r^2}{2}$

$= \frac{(10+18)(12)}{2} + \frac{\pi(3)^2}{2}$

$= 168 + 39.27$

$= 207.27$

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4a) Front & Back $28.5 \times 14.5 \times 2 = 826.5$

Left & Right $9.0 \times 14.5 \times 2 = 261$

Top & Bottom $28.5 \times 9.0 \times 2 = 513$

1600.5

b) $340 \times 10 = 3400\ cm^2$

c) $200 \times 10 = 2000\ mL$

7a) it would be 1/4

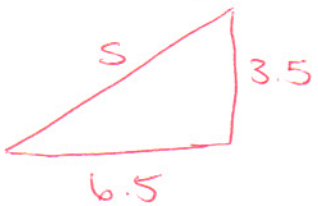
b) $V_{cyl} = \pi r^2 h$

$= \pi (6)^2 (9)$

$V_{1/4\,cyl} = \frac{\pi (12)^2 (9)}{4}$

$= 1017.36$

1b) Need length of slant



$s^2 = 6.5^2 + 3.5^2$

$s^2 = 42.25 + 12.25$

$s^2 = 54.50$

$s = \sqrt{54.50}$

$= 7.38$

top: $7.38 \times 6.5 = 47.97$

sides: $\left[10 \times 6.5 + \frac{6.5 \times 3.5}{2}\right] \times 2 = 152.75$

back: $13.5 \times 6.5 = 87.75$

bottom: $6.5 \times 6.5 = 42.25$

front: $6.5 \times 10 - \pi \left(\frac{1.25}{2}\right)^2 = 65 - 1.23 = 63.77$

Spindle: $2\pi r h = 2\pi \left(\frac{0.25}{2}\right)(6.75) = 2.16$

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1a) 1 square
1 equilateral triangle

$A_{sq} = 4 \times 4 = 16$

$A_{tri} = \frac{bh}{2}$, need h.

$h^2 = 2^2 - 1^2$
$= 4 - 1$
$= 3$
$h = \sqrt{3}$

$A_{tri} = \frac{(2)(\sqrt{3})}{2}$
$= \sqrt{3}$

$A_{TOT} = A_{sq} - A_{tri}$
$= 16 - \sqrt{3}$
$= 16 - 1.73$
$= 14.27$

b) 1 rectangle
1 triangle

$A_{rect} = L \times W$
$= 30 \times 17$
$= 510 cm^2$

$A_{tri} = \frac{bh}{2}$
$= \frac{(55-30)(17)}{2}$
$= \frac{(25)(17)}{2}$
$= \frac{425}{2}$
$= 212.5$

$A_{TOT} = A_{rect} + A_{tri}$
$= 510 + 212.5$
$= 722.5 cm^2$

c) 1 parallelogram
1 semi circle

$A_{TOT} = A_{para} - A_{cir}$
$= bh - \frac{\pi r^2}{2}$
$= (4)(1.9) - \frac{\pi(1)^2}{2}$
$= 7.6 - 1.57$
$= 6.03 m^2$

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1) to max a rectangle, we make a square.

a) $P = 4s$
$40 = 4s$
$\frac{40}{4} = s$
$10 = s$

$A = s^2$
$= 10^2$
$= 100 cm^2$

b) $P = 4s$
$110 = 4s$
$\frac{110}{4} = s$
$27.5 = s$

$A = s^2$
$= 27.5^2$
$= 756.25$

c) $P = 4s$
$25 = 4s$
$\frac{25}{4} = s$
$6.25 = s$

$A = s^2$
$= 6.25^2$
$= 39.06$

d) $P = 4s$
$87 = 4s$
$\frac{87}{4} = s$
$21.75 = s$

$A = s^2$
$= (21.75)^2$
$= 473.06$

2) to min perimeter, we make a square

a) $A = s^2$
$A = 25 ft^2$
$s^2 = 25$
$s = \sqrt{25}$
$s = 5$

$P = 4s$
$= 4(5)$
$= 20$

b) $A = s^2$
$81 = s^2$
$\sqrt{81} = s$
$9 = s$

$P = 4s$
$= 4(9)$
$= 36$

3a) $A = s^2$
$30 = s^2$
$\sqrt{30} = s$
$5.5 \doteq s$

$P = 4s$
$= 4(5.5)$
$\doteq 21.91$